

Museum, and agreement on this point to exist amongst the members of the staff. Happily nothing could be further from the truth. There may be some subjects about which unanimity could be found, but nomenclature is certainly not one of them.

The Lobster and the Crayfish: a Reply.

By the REV. THOMAS R. R. STEBBING, M.A., F.R.S., F.L.S.

Pallas, in his 'Spicilegia Zoologica,' fasc. ix. p. 81, speaks of a crayfish as *Astacus dauricus*. Since this was in 1772, Dr. Arnold Ortmann, in a courteous letter, asks what bearing this may be thought to have on the claim of Fabricius in 1775 to rank as the first Linnean authority for *Astacus*. Dr. Ortmann indicates in advance his acceptance of the appropriate answer. Pallas is neither defining a genus nor even instituting a new species, for he speaks of *Astacus dauricus* as a variety of the common crayfish, and proceeds to give a "Descriptio Canceri daurici," in which he says that "Forma atque proportione Astaco nostrati minori persimilis est." It is evident that he is using *Astacus* only as a customary designation for a subdivision of the still-maintained genus *Cancer*, and by his reference to a minor *Astacus* he implies a major species, which would have had preference as type if at that time any question had arisen as to the proper type species of *Astacus*. In his index *dauricus* becomes *dauricus*, but under neither spelling can it become the type of a genus which by the very terms of the description possessed an earlier species.

From Pallas I must return to Professor Bell and endeavour to deal in orderly method with the six points of his crushing reply.

(i.) In regard to the date of *Nephrops*, he is surprised at my supposing that he referred to Leach's article "Crustaceology," instead of to Leach's paper in vol. xi. of the Linnean 'Transactions.' Yet what else could or can be supposed, since he himself gave the date 1814, which applies to the former and does not apply to the latter? To be sure the "Crustaceology" is unsigned, and an edition of it may have appeared in 1813, but, seeing that Leach claimed it as his own on the very first day of January, 1815, it is rather my turn to be surprised that Professor Bell should refer to it as "an anonymous article of uncertain date."

(ii.) That the genera of Gronovius "are as good as those of" Brisson may or may not be true, but that the particular genus *Astacus* was instituted by Gronovius, or was so defined or so used by Gronovius as to give him any title to be the authority for it, may be with confidence denied. Besides, the whole question turns on the choice of a type species, and the Gronovian species are admittedly out of court.

(iii.) That 1758 has long been held by many naturalists to be "the zoological *ab urbe condita* of binominal chronology" I was not unaware; but in 1890 the authorities of the British Museum had not yet endorsed that excellent opinion. To the question whether I know "that 1758 has been well called" by the terms of the above quotation, my answer would be in the negative, for, though the

sentiment is sound, it is not well but ill expressed. There was no need for a confusion of languages in the macaronic style, nor for comparing the definite and well-known year 1758 with the disputed and uncertain date of the foundation of Rome. But I fear that Professor Bell only asked the question mischievously, to lure me into "gibing," as he calls it, at some fearfully eminent person.

(iv., v.) It seems essential once more emphatically to explain that Desmarest never mentions *Potamobius* at all, though Professor Bell, misquoting himself as well as Desmarest, insists that he does. In his first paper the professor accurately cited Desmarest's suggestion that *Potamobia* of Leach might be the same as the river-crab *Thelphusa*. Now he persuades himself that Desmarest definitely said that "Leach's *Potamobius* was a river-crab." Leach, in 1818, applied a French name—*Potamobie*—to some genus of crustaceans, but without a single word of description; so that, had the name been valid in form, it would still have been absolutely without any scientific importance. In 1823 Desmarest Latinizes the name into *Potamobia*, and hazards a guess at the application intended. Meanwhile, in 1819, through Samouelle's 'Compendium,' and very obviously without the knowledge of Desmarest, Leach had assigned the crayfish to a properly constituted genus *Potamobius*. Now, lastly, in 1897 Professor Bell apparently wishes us to believe that *Potamobius* was somehow preoccupied in 1819, because Desmarest made a casual allusion to a wholly indefinite *Potamobia* in 1823!

(vi.) From the solemn severity of tone in his closing paragraph it seems as if Professor Bell imagined that his reputation as a naturalist was involved in this discussion. He should not harbour such a thought. The controversy has been, not about nature, but about names. From Leach's 'Malacostraca Podophthalmata Britannia,' as completed in recent times by Mr. G. B. Sowerby, it will be seen that I have been fighting on the side of a long line of authorities of the British Museum. Professor Bell, out of charity or out of friendship, should allow this to weigh in the balance against the sad offence—of which he hopes (perhaps against hope) that I have by this time repented,—the unwitting offence of gibing at men of renown, living and dead, infallible, authors of text-books.

Nocturnal protective Coloration in Mammals, Birds, Fishes, Insects, &c., as developed by Natural Selection *. By A. E. VERRILL.

Much has been written in respect to the imitative and protective colours of these groups, as seen by daylight, and the bearing of these facts on natural selection is well known. Very little attention has been paid to their colours, as seen by twilight, moonlight, and starlight. Yet it is evident that protection is more needed during the night than in the daytime by a very large number of species. This is the case with those that move about in search of their food at night, as is the habit of numerous forms of small mammals, such as rodents (rats, mice, arvicolæ, &c.), insectivores (moles, shrews, &c.), many herbivores, various marsupials, and members of other

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